Agilent G1554A On-Column Capillary Inlet with EPC

6890 Gas Chromatograph

Installation Guide

Agilent Technologies

Notices

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Safety Notices

CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

On-Column Inlet

Installation Guide

This installation guide reviews the procedure for installing an on–column inlet with electronic pneumatics control (EPC) in an Agilent 6890 Gas Chromatograph (hereafter referred to as the GC). Before following this procedure, refer to the safety information on the inside front cover.

Table 1 Parts list and required tools

Parts	Cool on–column inlet with EPC
	Insulation
	Screw for installing the flow manifold
	Cavity sleeve
	Heat-resistant screw(s) for installing the cavity sleeve
	Static control wrist strap
Tools	T–20 Torx screwdriver
	Flat–blade screwdriver

Steps

1 Preparing the GC
2 Installing the Flow Manifold
3 Installing the Cavity Sleeve
4 Installing the Inlet
5 Restoring the GC to Operating Condition
6 Calibrating Your Inlet

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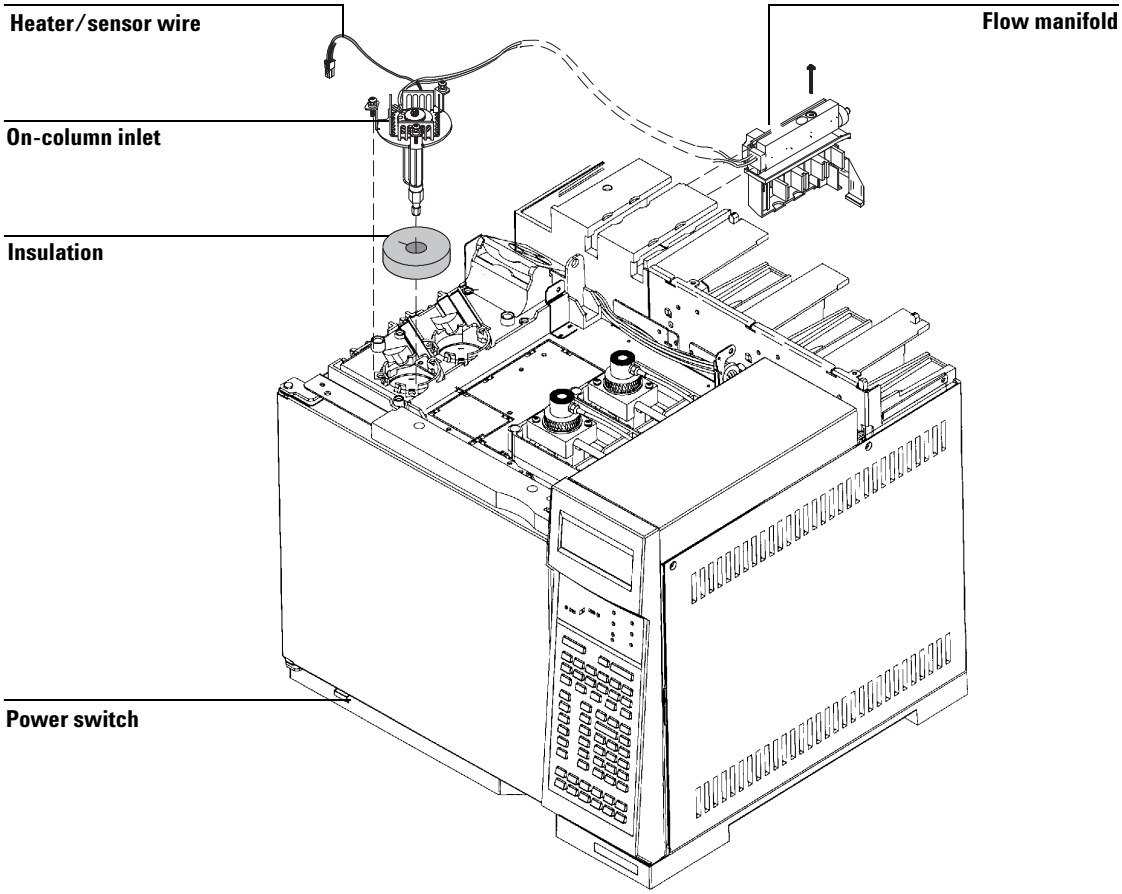

Figure 1 On-column inlet and GC

Preparing the GC

1. Turn off the GC and unplug the power cord. Allow time for all heated zones to cool and then turn off supply gases at their sources.
2. Unsnap and lift off the pneumatics top cover.
3. Remove the inlet cover plate from the front or back position. If the plate is fastened to the rear cover with two screws, loosen the screws with a T–20 Torx screwdriver and slide the plate up and off. If the plate is in the form of a metal cutout, use a pair of needle-nosed pliers to pry the cutout off.
4. Remove the RFI cover. Remove the screw with a T–20 Torx screwdriver, slide the cover to the left until it disengages from the top rear panel, and remove it.
5. Loosen the five screws (see Figure 2)in the top rear panel with a T–20 Torx screwdriver.

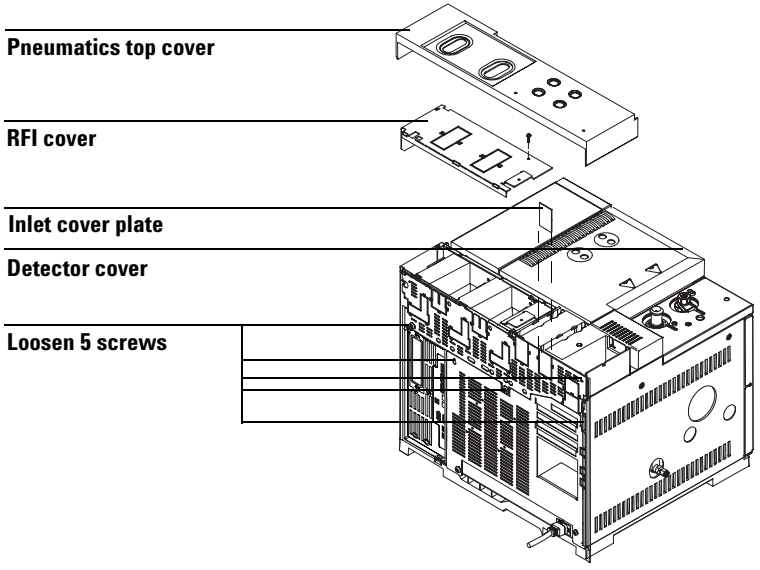

Figure 2 Preparing the GC

WARNING **Hazardous voltages are present in the mainframe when the GC power cord is plugged in. Avoid a potentially dangerous shock hazard by unplugging the power cord before removing the side panels.**

6 Grasp the panel at each end and gently lift it up and away from the GC. Be careful not to disrupt the supply tubing. Do not retighten the screws.

7 Lift the detector cover to the straight–up position and examine the hinge in the right rear corner

- If the hinge is a metal bracket attached to the oven top, pull the clip at its top toward you to release the hinge pin. Push the pin to the left to release the cover. Raise the right side of the cover and remove it
- If the detector cover rests on a post on the electronics cover, simple tilt the cover to the left (see Figure 3).

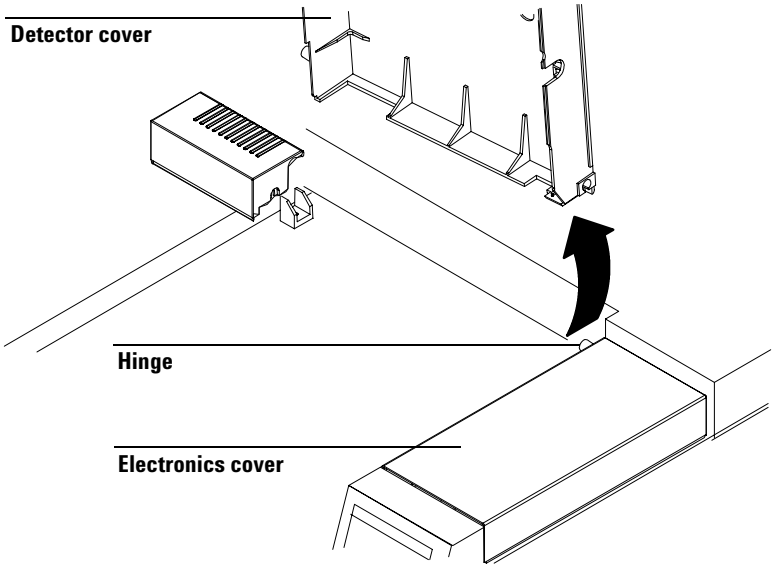

Figure 3 Removing the detector cover

8 Remove the left side cover by loosening the two screws with a T–20 Torx screwdriver, sliding the cover to the rear of the GC, and lifting it up and off as shown in Figure 4.

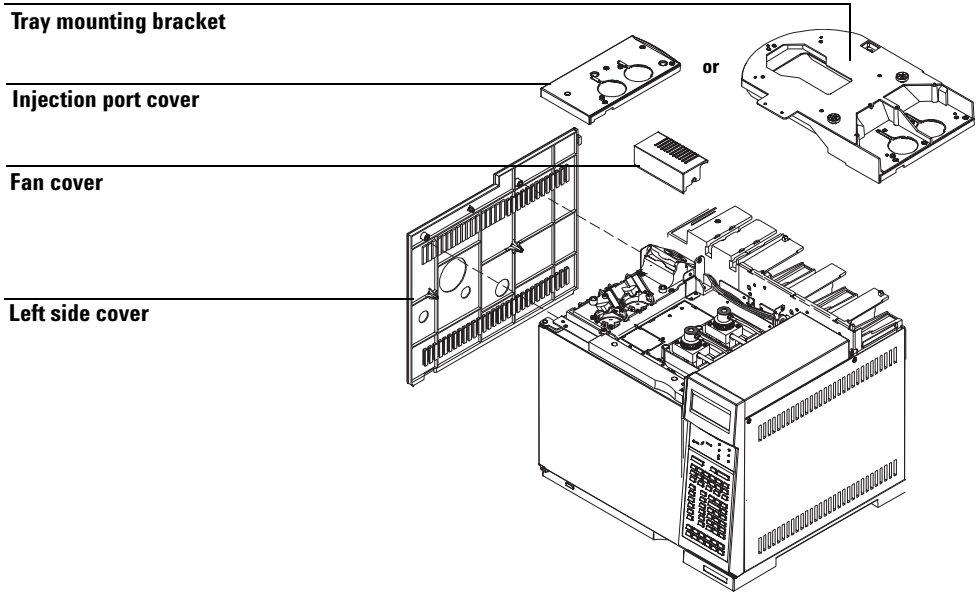

Figure 4 Removing the covers

9 Remove the fan cover.

- **a** Loosen the screw on the right side of the fan cover.
- **b** Slide the cover to the right to disengage it from the left mounting post.
- **c** Lift the cover up and off.

10 Remove the injection port cover. Loosen the 5 captive screws with a T–20 Torx screwdriver until you are able to lift off the cover

or

Remove the tray mounting bracket by loosening the six screws at the top of the bracket and the two screws at the side of the GC and lifting it off.

Installing the Flow Manifold

CAUTION Board components can be damaged by static electricity. Use a properly grounded static control wrist strap when installing the flow manifold.

1 From the back of GC, locate the pneumatics carrier (see Figure 5).

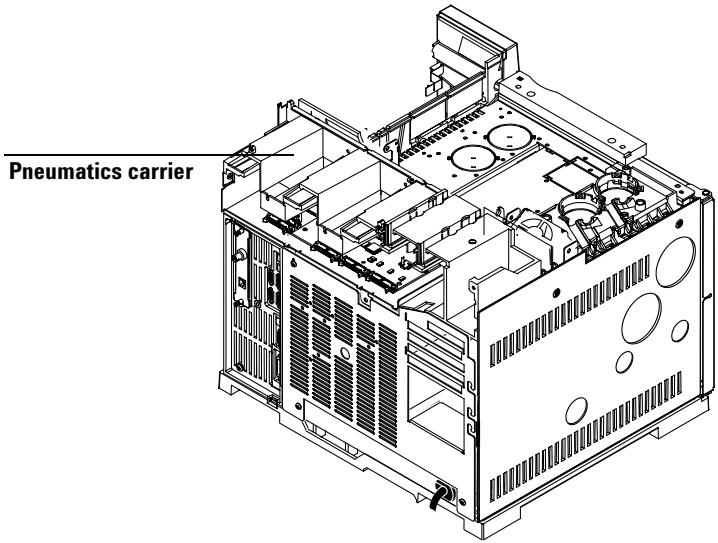

Figure 5 Pneumatics carrier location

2 If you are installing an inlet in the back position and there is an inlet installed in the front position, unplug the ribbon cable from the pneumatic control board (see Figure 6).

Unlock the connector by pushing the tabs away from the center.

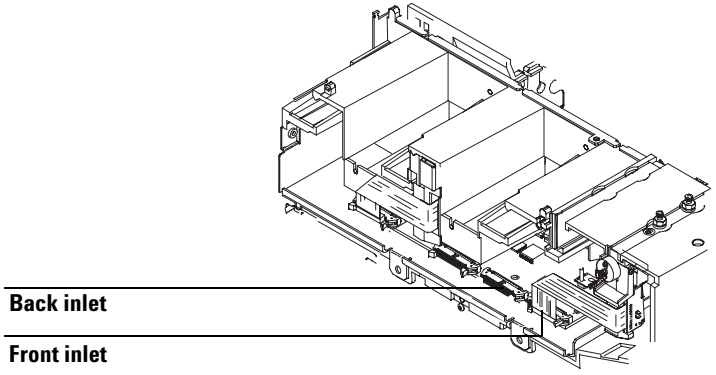

Figure 6 Connector locations

3 Locate the ridges in the pneumatics carrier and the corresponding troughs in the flow manifold. Slide the flow module into the carrier, lining up the ridges and troughs (see Figure 7).

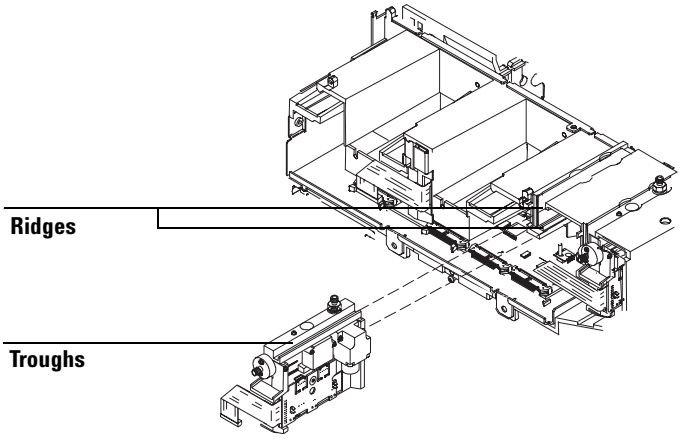

Figure 7 Inserting the flow module

4 Fold the ribbon cable as shown in Figure 8 and plug into the appropriate connector. Push until the plug is firmly in place. Lock the connector by moving the tabs to the center of the connector until they click into place. Replug the front inlet ribbon cable into the front connector, if necessary.

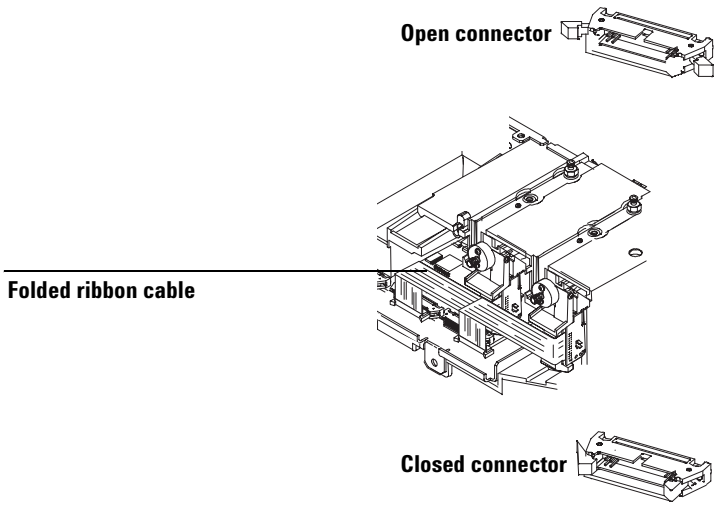

Figure 8 Connecting the ribbon cable

5 Install and tighten the screw at the top of the manifold as shown in Figure 9. Tighten with a T–20 Torx screwdriver until snug.

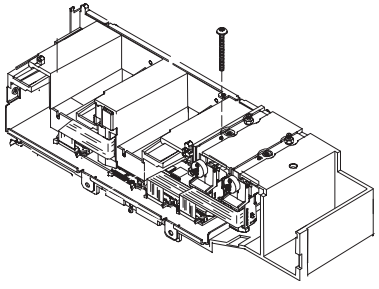

Figure 9 Installing the screw

Installing the Cavity Sleeve

1 From the front of the GC, locate the inlet chassis and the front and back inlet positions (see Figure 10).

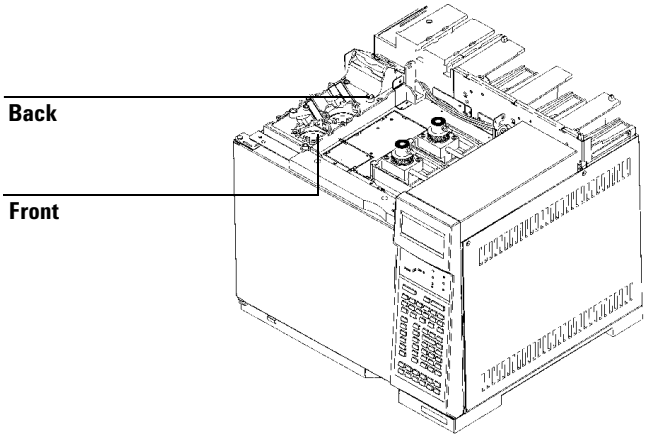

Figure 10 Inlet chassis location

2 Remove the round metal cutout (shown in Figure 11) in the front or back inlet position if necessary. Insert a flat-blade screwdriver into the slot in the cutout and move the

screwdriver back and forth until the cutout breaks free from the sheet metal on the oven top.

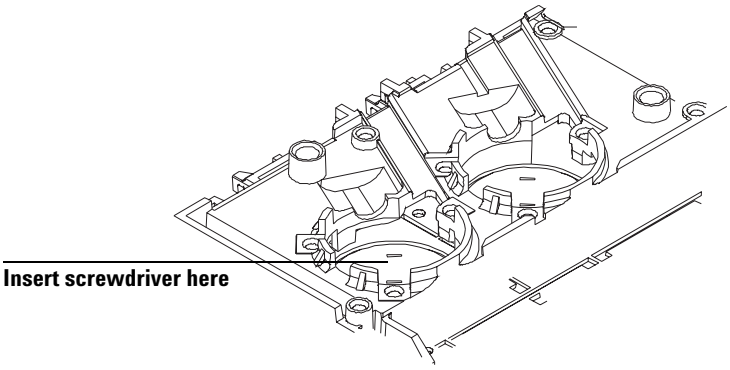

Figure 11 Removing the cutout

3 Remove the die-cut insulation plug from the front or back inlet position as shown in Figure 12.

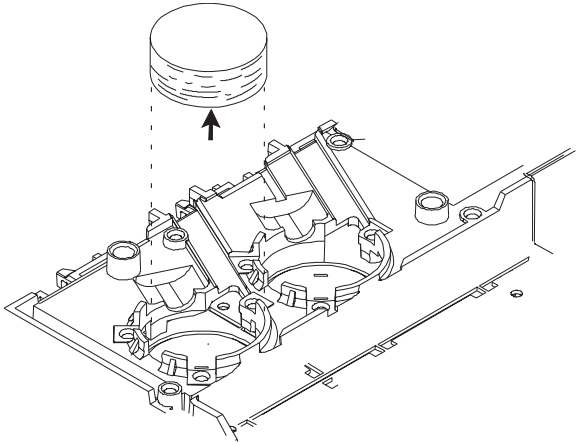

Figure 12 Removing insulation

4 Carefully remove the scribed circle of insulation from the oven top to create an opening into the oven.

Method 1:

Use a razor knife to cut out the insulation using the scribed circle as a guide as shown in Figure 13.

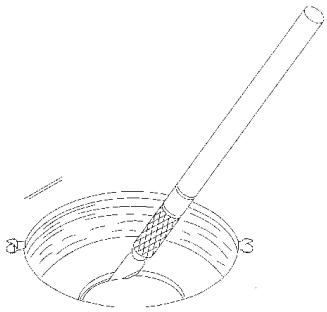

Figure 13 Shaping the insulation

Method 2:

Pierce the insulation with a screwdriver. Rotate the screwdriver around the circumference of the scribed circle to remove excess insulation.

NOTE Be sure to clean up any pieces of insulation that fall inside the oven.

5 From inside the oven, install the heat–resistant screw. Do not tighten it.

6 Insert the cavity sleeve in the front or back inlet until the bottom is flush with the oven top and rotate it until the slot in the cup hooks over the screw (see Figure 14). Tighten the screw with a Torx T–20 screwdriver.

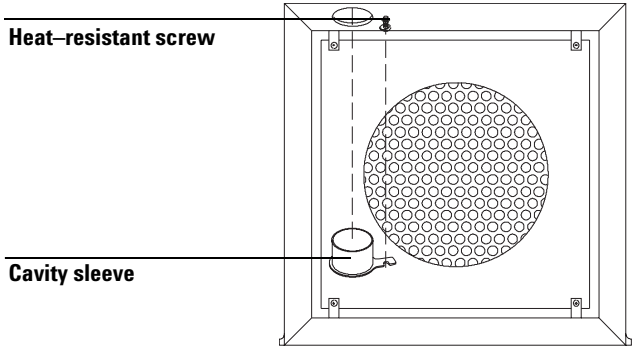

Figure 14 Inserting the cavity sleeve

Installing the Inlet

1 Place the insulation on the inlet base so the stainless steel tubing at the inlet's base fits through the slit in the insulation (see Figure 15).

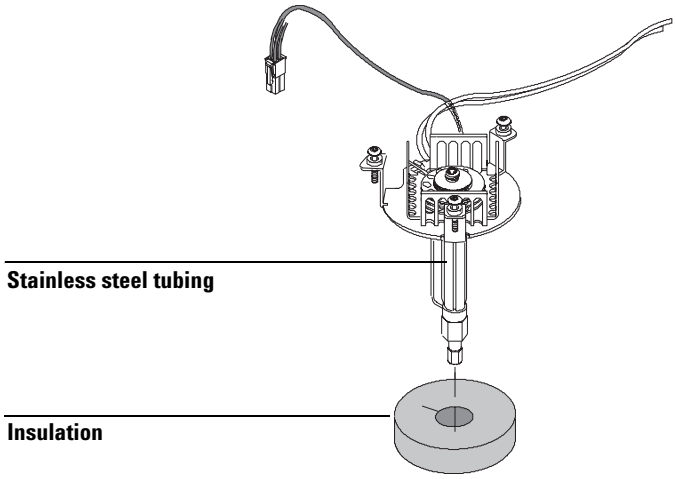

Figure 15 Placing the insulation

2 Place the inlet in the front or back position so the three screws line up with the holes in the oven top and the heater/sensor cable sits in the trough in the inlet chassis (see Figure 16). Tighten each screw once with the T–20 Torx

screwdriver until the inlet is properly aligned. Tighten each screw again until snug.

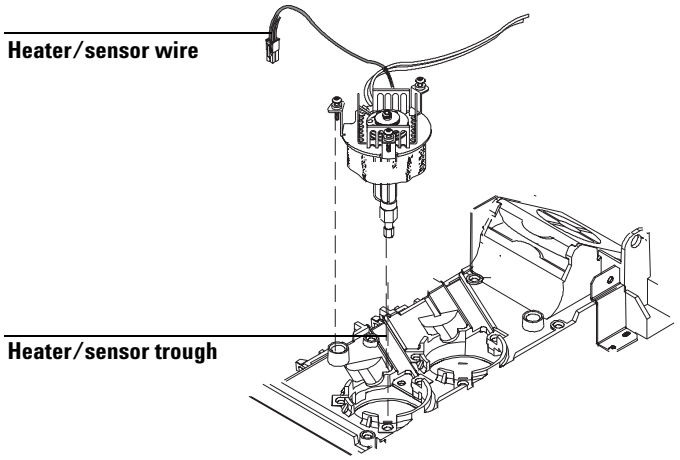

Figure 16 Inserting the inlet

3 From the left side of the GC, locate the heater/sensor wire and its corresponding connector (shown in Figure 17). Tuck the heater/sensor wire underneath the clip at the side of the GC and connect it to the nearest square connector.

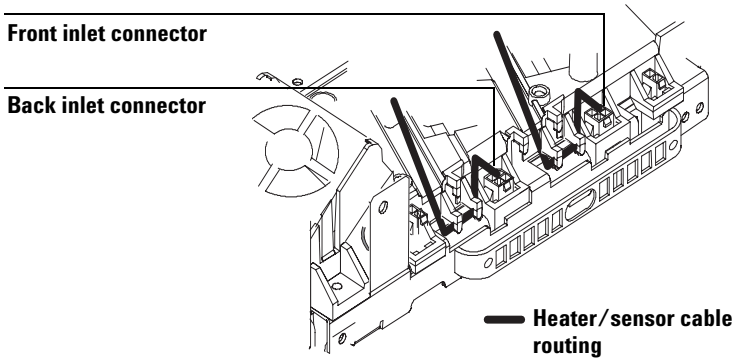

Figure 17 Connecting the heater/sensor cable

4 Route the stainless steel tubing from the inlet to the flow manifold as shown in Figure 18. Route the tubing along the side of the inlet chassis to the fan bracket. Route tubing from the front inlet outside the bracket and tubing from the back inlet inside the bracket. Route the tubing behind the fan to the flow manifold.

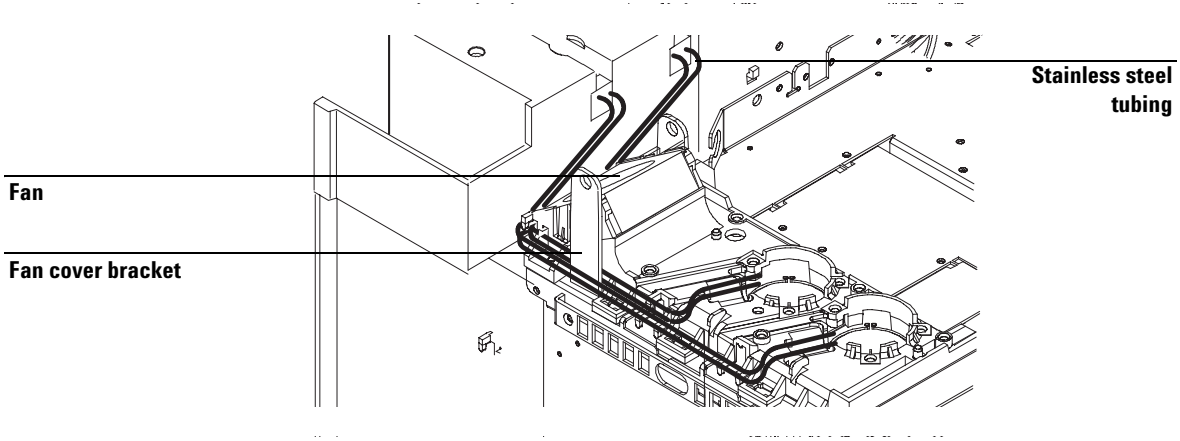

Figure 18 Routing the stainless steel tubing

Restoring the GC to Operating Condition

1. Reinstall the left side cover and tighten the two screws.
2. Replace the fan cover.
3. Reinstall the detector cover.
4. Reinstall the inlet cover and tighten the five screws or reinstall the tray bracket. Make certain the heater/sensor wires and the stainless steel tubing are in their respective troughs and will not be crushed by the cover.
5. Reinstall the upper rear panel and tighten the screws.
6. Reinstall the RFI cover.
7. Remove the label that covers the purge vent hole in the pneumatics cover (see Figure 19). From underneath the cover, push the label through the top.

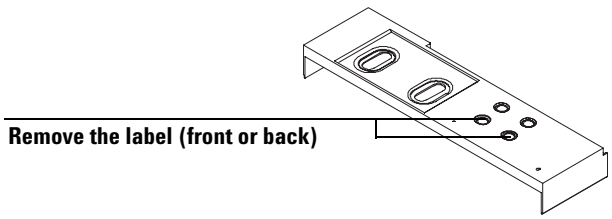

Figure 19 Uncovering the vent hole

8. Replace the pneumatics cover.
9. Plug in the GC and turn it on.

10 Press [Front Inlet] or [Back Inlet]. If your inlet is properly installed, you will see the following display:

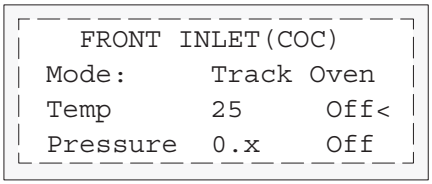

Figure 20 GC display

NOTE

An actual pressure value is displayed when the carrier gas is off or not connected. This is not an error. After the carrier gas is connected and the inlet is zeroed, the actual pressure value will be equal to the setpoint value.

Calibrating Your Inlet

Your inlet's flow manifold contains a pressure sensor that must be zeroed after it is installed on your GC. This calibration procedure ensures an accurate inlet pressure display.

CAUTION Do not connect the carrier gas to your flow manifold until you have zeroed your inlet's pressure sensor.

1. Plug in your GC and turn it on.
2. Wait 15 minutes. This allows your GC to reach thermal equilibrium.
3. Zero the inlet's pressure sensor:
   a. Press [Options], scroll to **Calibration** and press [Enter].
   b. Scroll to **Front inlet** or **Back inlet** and press [Enter].
   c. Scroll to **Pressure Zero**.
   d. Press **On** to zero the pressure sensor.
4. Turn off your GC and unplug the power cord.
5. Plumb the carrier gas to your flow manifold. If you need help with this step, see your 6890 site preparation and installation information.
6. Plug in the GC again and turn it on.
7. Configure your GC's column and carrier gas. See your 6890 operating documentation for details.

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